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Document Tracking Number 02JAX0125

June 28, 2002

Project Number N2872

Commander, Southern Division
Naval Facilities Engineering Command
ATTN: Mr. Wayne Hansel (Code ES24)
2155 Eagle Drive
North Charleston, South Carolina 29406

Reference: CLEAN Contract Number N62467-94-D-0888
Contract Task Order (CTO) Number 0192

Subject: Site Screening Letter Report
Petroleum Contaminated Area 19
Naval Air Station Jacksonville, Jacksonville, Florida

Dear Mr. Hansel:

Tetra Tech NUS, Inc. (TtNUS) is pleased to submit this Site Screening Letter Report for Petroleum Contaminated Area (PCA) 19. This Site Screening Letter Report was prepared for the United States Navy (Navy) Southern Division, Naval Facilities Engineering Command (SOUTHNAVFACENGCOM) under Contract Task Order (CTO) 0192, for the Comprehensive Long-term Environmental Action Navy (CLEAN) Contract Number N62467-94-D0888. The objective of the Site Screening Letter Report is to document results of the field screening activities for soil and groundwater contamination. The field screening activities were performed in accordance with the Work Plan for Site Screening at Various Petroleum Sites dated August 2001.

Background Information

PCA 19 is the former location of underground storage tank (UST) Number 127E (Figure 1). In 1941, UST Number 127E was installed approximately 5 feet (ft) east of Building 127E (Figure 2). Building 127E is located on the grounds of an active potable water producing plant for the Navy. The steel 500-gallon UST was used to store diesel fuel for an emergency generator. The last date in which product was stored in the UST is not known. In September 1995, the tank was removed, and J. A. Jones Environmental Services Company completed a tank closure assessment. During the UST removal, the tank was reported to be intact and 3 cubic yards of soil were present in the UST, indicating that the tank was previously abandoned-in-place. Organic vapor analyzer (OVA) readings performed during the tank closure indicated no evidence of soil contamination outside the tank. However, a composite soil sample from the sand used to fill the tank indicated the presence of petroleum compounds. This sand was stockpiled and disposed off site. The soil excavated for tank removal was returned to the excavation along with additional clean backfill to bring the excavation to grade. During the tank removal, groundwater samples were not collected. The Tank Closure Report recommended "No Further Action" for UST Number 127E, since no evidence of soil contamination was found outside the tank and the tank appeared to have been previously abandoned-in-place.

SOUTHNAVFACENGCOM contracted TtNUS to screen each PCA site for possible soil and groundwater contamination. To accomplish this, TtNUS was to install one soil boring near the center of the previous

tank location. Figures showing the PCA Site Plans were obtained from the station and were used in the planning documents.

The activities completed by TtNUS and the results are detailed below.

Field Screening Activities

On December 19, 2001, TtNUS mobilized to PCA 19 (Building 127E) for the field screening activities. Originally the field screening activities were to consist of soil and groundwater sample collection via direct-push technology (DPT). However, during utility clearance activities on December 11, 2001, Public Works Center (PWC) requested that TtNUS perform media sampling via hand-auger due to the sensitivity of the site. Adjacent to Building 127E is a 10-inch water main providing the water plant and Naval Air Station (NAS) Jacksonville with potable water. During field screening activities, one soil boring (JAX-19-SB01) was installed at PCA 19 via hand-auger to a depth of 8 ft below land surface (bls). The location of PCA 19 with surrounding features, former tank location, and the location of the soil boring is indicated on Figure 2.

Site Lithology

The site is underlain by a layer of brown fine silty sand from the surface to 1 ft bls. Light brown sand begins at 1 ft bls and continues to a depth of 4 ft bls. At 4 ft bls, a brown silty sand was encountered and continued to the boring termination depth of approximately 8 ft bls.

Soil Vapor Analysis

The potential for petroleum impacted soil in the vadose zone was assessed through soil headspace analysis. OVA headspace analysis was conducted using a flame ionization detector (FID). The soil vapor analysis was performed according to the head space method prescribed in Chapter 62-770.200(2), Florida Administrative Code (FAC). Soil samples were collected at 2-ft intervals to the water table, which was encountered at 5 ft bls. The results of the soil vapor screening, presented in Table 1, indicated soil at 4 ft bls contained hydrocarbon vapors above 50 parts per million (ppm). For diesel fuel sites, soils exhibiting an OVA response of greater than 50 ppm are considered "excessively contaminated" as defined by Chapter 62-770.200, FAC.

Soil Sampling Results

Based on the results of the soil headspace analyses, one soil sample [JAX-19-SB-1 (4)] was collected at 4 ft bls. The soil sample was placed on ice; shipped to Accutest Laboratories in Orlando, Florida; and analyzed for volatile organic compounds (VOCs) by United States Environmental Protection Agency (USEPA) Method 8021B, polynuclear aromatic hydrocarbons (PAHs) by USEPA Method 8310, and total recoverable petroleum hydrocarbons (TRPH) by Florida Petroleum Range Organics (FL-PRO). Results of the laboratory analysis indicated the presence of petroleum compounds; however, no constituents were detected above Chapter 62-770, FAC, Soil Cleanup Target Levels (SCTLs). A summary of detected constituents is presented in Table 2. The complete set of analytical results is presented in Attachment A.

Groundwater Sampling Results

For groundwater sample collection, soil boring JAX-19-SB1 was converted to a temporary monitoring well. For the installation of the temporary monitoring well, the soil boring was advanced to 8 ft bls with the hand auger, and a ¾ inch polyvinyl chloride (PVC) 0.01 inch slot well screen was installed. The screen intersected the water column from 6 to 8 ft bls, and a sand pack was installed around the well screen. For groundwater recovery, Teflon® tubing was inserted into the well, and the tubing was connected to a peristaltic pump for low-flow purging and sampling. Several screen volumes were then pumped from the well in order to reduce the turbidity level and ensure a representative sample, based on visual

observation. One groundwater sample [JAX-19-GW (6-8)] was collected from 6 to 8 ft bls. The groundwater sample was placed on ice; shipped to Accutest laboratories in Orlando, Florida; and analyzed for VOCs using USEPA Method 8021B, PAHs using USEPA Method 8310, TRPH using FL-PRO, and ethylene dibromide (EDB) using USEPA Method 504.1. The groundwater analytical results, presented in Table 3, indicate 9 PAH constituents that exceeded Florida Department of Environmental Protection (FDEP) Groundwater Cleanup Target Levels (GCTLs). The complete set of analytical results is presented in Attachment A.

Conclusions and Recommendations

Data obtained during the field screening at PCA 19 indicated headspace readings greater than 50 ppm and "excessively contaminated" soil as defined by Chapter 62-770, FAC. However, the analytical results from the soil sample collected from the same interval indicated petroleum product constituents were not at concentrations exceeding Chapter 62-770, FAC, SCTLs. The groundwater sample collected from the temporary monitoring well indicated that dissolved concentrations of PAH constituents exceed FDEP GCTLs.

As a result of the PCA 19 site screening, TtNUS recommends that a site assessment (SA) be conducted in accordance with Chapter 62-770, FAC for PCA Site 19 at Building 127E NAS Jacksonville.

Sincerely,

Gregory S. Roof
Task Order Manager

GSR/jf

Enclosures (3)

cc: Jorge Caspary, FDEP (hard copy, CD)
Frank Sigona, NAS Jacksonville (hard copy, CD)
D. Wroblewski (letter only)
M. Perry (unbound copy, CD)
File – CTO 192

TABLES

TABLE 1
SOIL VAPOR MEASUREMENTS

PCA 19
NAVAL AIR STATION JACKSONVILLE
JACKSONVILLE, FLORIDA

Soil Boring Number	Date of Measurement	Sample Depth (ft bls)	Headspace Readings (ppm)		
			Total Organic Reading	Carbon Filtered Reading	Net Reading
JAX-19-SB1	3/5/2001	1	0	0	0
		3	0	0	0
		4	2200	550	1650

Notes:

Wet soils encountered at approximately 5 ft bls.

TABLE 2
CONFIRMATORY SOIL SAMPLING ANALYTICAL RESULTS

PCA 19
NAVAL AIR STATION JACKSONVILLE
JACKSONVILLE, FLORIDA

Compound	Direct Exposure Residential[1]	Leachability Based on Groundwater Criteria[1]	**PCA 19**
			JAX-19-SB-1(4)
			12/19/2001
Sample Depth			4 ft bls
PAHs (USEPA Method 8310) (µg/kg)			
Benzo(a)pyrene	100	8000	58
Benzo(b)fluoranthene	10000	10000	36.7
Benzo(g,h,i)perylene	2300000	32000000	75.6
Benzo(k)fluoranthene	15000	25000	79 U
Indeno(1,2,3-cd)pyrene	1500	28000	44.6
FL-PRO (mg/kg)			
TRPH	340	340	15.4

Notes:
[1]Chapter 62-770, FAC (April 30, 1999)
J = Estimated value less than practical quantitation level
U = Below method detection limits
µg/kg = micrograms per kilogram
mg/kg = millligrams per kilogram

TABLE 3
SUMMARY OF GROUNDWATER QUALITY

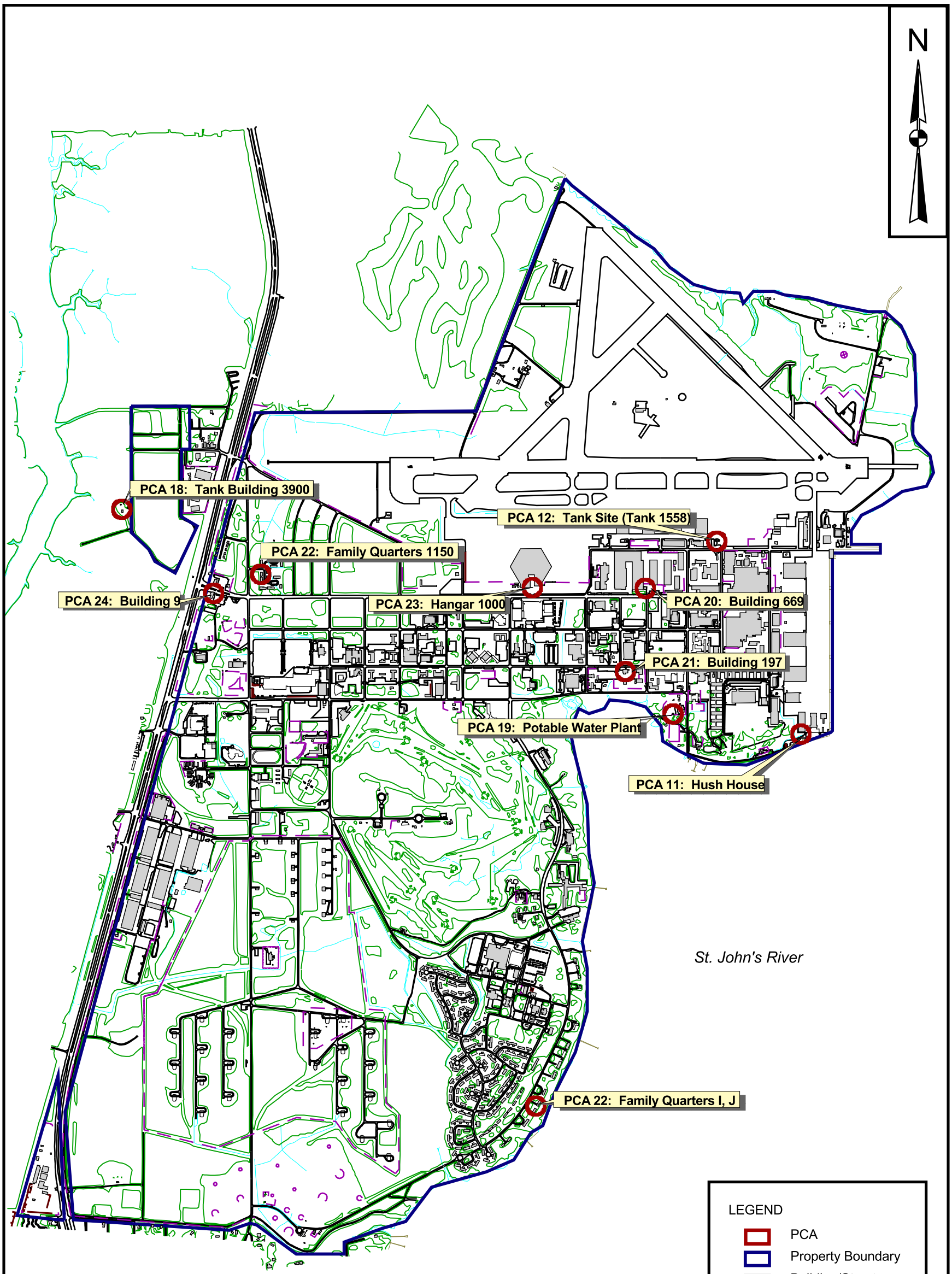
PCA SITE 19
NAVAL AIR STATION JACKSONVILLE
JACKSONVILLE, FLORIDA

Compound	FDEP Target Level[1]	PCA 19
		JAX-19-GW(6-8)
		12/19/01
PAHs (USEPA Method 8310) (µg/L)		
Naphthalene	20	**21.7**
1-Methylnaphthalene	20	3.5
Acenaphthene	20	**26.7**
Anthracene	2100	13.2
Benzo(a)anthracene	0.2	**5.2**
Benzo(a)pyrene	0.2	**6.1**
Benzo(b)fluoranthene	0.2	**3.4**
Benzo(g,h,I)perylene	210	4.9
Benzo(k)fluoranthene	0.5	**2.3**
Chrysene	4.8	**11.4**
Dibenzo(a,h)anthracene	0.2	**0.48**
Fluoranthene	280	26.0
Fluorene	280	12.3
Indeno(1,2,3-cd)pyrene	0.2	**3.6**
Phenanthrene	210	45.5
Pyrene	210	20.6
FL-PRO (USEPA Method 8270) (mg/L)		
TRPH	5	0.405

Notes:
[1]Chapter 62-770, FAC (August, 1999)
U = below method detection limit
µg/L = micrograms per liter
mg/L = milligrams per liter

FIGURES

P:\GIS\JACKSONVILLE_NAS\APR\PCA.APR PCA SITE MAP 5/15/02 JAL



DRAWN BY: J. LAMEY	DATE: 5/14/02	SITE LOCATION MAP PETROLEUM CONTAMINATION ASSESSMENT NAVAL AIR STATION JACKSONVILLE, FLORIDA	CONTRACT NUMBER: —
CHECKED BY: _____	DATE: _____		APPROVED BY: — DATE: —
COST/SCHEDULE-AREA			APPROVED BY: — DATE: —
SCALE: AS NOTED			DRAWING NO.: FIGURE 1 REV: 0

P:\GIS\JACKSONVILLE_NAS\APR\PCA.APR PCA 19: POTABLE WATER PLANT 5/14/02 JAL

N

Water Plant

Former UST

JAX-19-SB-1

LEGEND

- Soil Boring Location
- Property Boundary
- Building/Structure
- Road
- Fence
- Vegetation
- Surface Water

40 0 40 Feet

DRAWN BY J. LAMEY	DATE 4/26/02	SOIL BORING LOCATIONS PCA 19 - POTABLE WATER PLANT PETROLEUM CONTAMINATION ASSESSMENT NAVAL AIR STATION JACKSONVILLE, FLORIDA	CONTRACT NUMBER 2872
CHECKED BY _____	DATE _____		APPROVED BY — DATE —
COST/SCHEDULE-AREA			APPROVED BY — DATE —
SCALE AS NOTED			DRAWING NO. FIGURE 2 — REV 0

ATTACHMENT A
ANALYTICAL RESULTS

CTO192-NAS JACKSONVILLE
SOIL DATA
Accutest, NJ
SDG: F11852

SAMPLE NUMBER:	JAX-12-SB1(4)			JAX-12-SB2(5)			JAX-19-SB1(4)			JAX-24-SB1(2)		
SAMPLE DATE:	12/19/01			12/19/01			12/19/01			12/19/01		
LABORATORY ID:	F11852-9			F11852-8			F11852-3			F11852-5		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	79.5 %			80.8 %			82.9 %			77.3 %		
UNITS:	UG/KG			UG/KG			UG/KG			UG/KG		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
VOLATILES												
1,1,1-TRICHLOROETHANE	9.7	U		5.6	U		5.9	U		6.2	U	
1,1,2,2-TETRACHLOROETHANE	9.7	U		5.6	U		5.9	U		6.2	U	
1,1,2-TRICHLOROETHANE	9.7	U		5.6	U		5.9	U		6.2	U	
1,1-DICHLOROETHANE	9.7	U		5.6	U		5.9	U		6.2	U	
1,1-DICHLOROETHENE	31.8			16.8			5.9	U		6.2	U	
1,2-DICHLOROBENZENE	9.7	U		5.6	U		5.9	U		6.2	U	
1,2-DICHLOROETHANE	9.7	U		5.6	U		5.9	U		6.2	U	
1,2-DICHLOROPROPANE	9.7	U		5.6	U		5.9	U		6.2	U	
1,3-DICHLOROBENZENE	9.7	U		5.6	U		5.9	U		6.2	U	
1,4-DICHLOROBENZENE	9.7	U		5.6	U		5.9	U		6.2	U	
2-CHLOROETHYL VINYL ETHER	19	U		11	U		12	U		12	U	
BENZENE	9.7	U		5.6	U		5.9	U		6.2	U	
BROMODICHLOROMETHANE	9.7	U		5.6	U		5.9	U		6.2	U	
BROMOFORM	9.7	U		5.6	U		5.9	U		6.2	U	
BROMOMETHANE	9.7	U		5.6	U		5.9	U		6.2	U	
CARBON TETRACHLORIDE	9.7	U		5.6	U		5.9	U		6.2	U	
CHLOROBENZENE	9.7	U		5.6	U		5.9	U		6.2	U	
CHLORODIBROMOMETHANE	9.7	U		5.6	U		5.9	U		6.2	U	
CHLOROETHANE	9.7	U		5.6	U		5.9	U		6.2	U	
CHLOROFORM	9.7	U		5.6	U		5.9	U		6.2	U	
CHLOROMETHANE	9.7	U		5.6	U		5.9	U		6.2	U	
CIS-1,2-DICHLOROETHENE	9.7	U		5.6	U		5.9	U		6.2	U	
CIS-1,3-DICHLOROPROPENE	9.7	U		5.6	U		5.9	U		6.2	U	
DICHLORODIFLUOROMETHANE	9.7	U		5.6	U		5.9	U		6.2	U	
ETHYLBENZENE	9.7	U		5.6	U		5.9	U		6.2	U	
METHYL TERT-BUTYL ETHER	9.7	U		5.6	U		5.9	U		6.2	U	
METHYLENE CHLORIDE	19	U		11	U		12	U		12	U	
TETRACHLOROETHENE	9.7	U		5.6	U		5.9	U		6.2	U	
TOLUENE	9.7	U		5.6	U		5.9	U		6.2	U	
TOTAL XYLENES	29	U		17	U		18	U		19	U	
TRANS-1,2-DICHLOROETHENE	9.7	U		5.6	U		5.9	U		6.2	U	
TRANS-1,3-DICHLOROPROPENE	9.7	U		5.6	U		5.9	U		6.2	U	

CTO192-NAS JACKSONVILLE
SOIL DATA
Accutest, NJ
SDG: F11852

SAMPLE NUMBER:	JAX-12-SB1(4)			JAX-12-SB2(5)			JAX-19-SB1(4)			JAX-24-SB1(2)		
SAMPLE DATE:	12/19/01			12/19/01			12/19/01			12/19/01		
LABORATORY ID:	F11852-9			F11852-8			F11852-3			F11852-5		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	79.5 %			80.8 %			82.9 %			77.3 %		
UNITS:	UG/KG			UG/KG			UG/KG			UG/KG		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
VOLATILES												
TRICHLOROETHENE	9.7	U		5.6	U		5.9	U		6.2	U	
TRICHLOROFLUOROMETHANE	9.7	U		5.6	U		5.9	U		6.2	U	
VINYL CHLORIDE	9.7	U		5.6	U		5.9	U		6.2	U	

CTO192-NAS JACKSONVILLE
SOIL DATA
Accutest, NJ
SDG: F11852

SAMPLE NUMBER:	JAX-12-SB1(4)			JAX-12-SB2(5)			JAX-19-SB1(4)			JAX-24-SB1(2)		
SAMPLE DATE:	12/19/01			12/19/01			12/19/01			12/19/01		
LABORATORY ID:	F11852-9			F11852-8			F11852-3			F11852-5		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	79.5 %			80.8 %			82.9 %			77.3 %		
UNITS:	UG/KG			UG/KG			UG/KG			UG/KG		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
POLYNUCLEAR AROMATIC HYDROCARBONS												
1-METHYLNAPHTHALENE	420	U		410	U		400	U		420	U	
2-METHYLNAPHTHALENE	420	U		410	U		400	U		420	U	
ACENAPHTHENE	840	U		830	U		790	U		850	U	
ACENAPHTHYLENE	840	U		830	U		790	U		850	U	
ANTHRACENE	420	U		410	U		400	U		420	U	
BENZO(A)ANTHRACENE	420	U		410	U		400	U		420	U	
BENZO(A)PYRENE	84	U		83	U		58	J	P	85	U	
BENZO(B)FLUORANTHENE	84	U		83	U		36.7	J	P	85	U	
BENZO(G,H,I)PERYLENE	84	U		83	U		75.6	J	P	85	U	
BENZO(K)FLUORANTHENE	84	U		83	U		79	U		85	U	
CHRYSENE	420	U		410	U		400	U		420	U	
DIBENZO(A,H)ANTHRACENE	84	U		83	U		79	U		85	U	
FLUORANTHENE	420	U		410	U		400	U		420	U	
FLUORENE	420	U		410	U		400	U		420	U	
INDENO(1,2,3-CD)PYRENE	84	U		83	U		44.6	J	P	85	U	
NAPHTHALENE	420	U		410	U		400	U		420	U	
PHENANTHRENE	420	U		410	U		400	U		420	U	
PYRENE	420	U		410	U		400	U		420	U	

CTO192-NAS JACKSONVILLE
SOIL DATA
Accutest, NJ
SDG: F11852

SAMPLE NUMBER:	JAX-12-SB1(4)			JAX-12-SB2(5)			JAX-19-SB1(4)			JAX-24-SB1(2)		
SAMPLE DATE:	12/19/01			12/19/01			12/19/01			12/19/01		
LABORATORY ID:	F11852-9			F11852-8			F11852-3			F11852-5		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	79.5 %			80.8 %			82.9 %			77.3 %		
UNITS:	MG/KG			MG/KG			MG/KG			MG/KG		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
PETROLEUM HYDROCARBONS												
TOTAL PETROLEUM HYDROCARBONS	10	U		9.54	J	P	15.4			13.5		

CTO192-NAS JACKSONVILLE
WATER DATA
Accutest, NJ
SDG: F11852

SAMPLE NUMBER:	JAX-12-GW1(4-9)			JAX-12-GW2(5-10)			JAX-19-GW(3-7)			JAX-19-GW(6-8)		
SAMPLE DATE:	12/19/01			12/19/01			12/19/01			12/19/01		
LABORATORY ID:	F11852-7			F11852-6			F11852-4			F11852-1		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
VOLATILES												
1,1,1-TRICHLOROETHANE	1	U		1	U		1	U		1	U	
1,1,2,2-TETRACHLOROETHANE	1	U		1	U		1	U		1	U	
1,1,2-TRICHLOROETHANE	1	U		1	U		1	U		1	U	
1,1-DICHLOROETHANE	1	U		0.66	J	P	1	U		1	U	
1,1-DICHLOROETHENE	1.1			2.1			1	U		1	U	
1,2-DIBROMOETHANE	0.02	U		0.02	U		0.02	U		0.02	U	
1,2-DICHLOROBENZENE	1	U		1	U		1	U		1	U	
1,2-DICHLOROETHANE	0.73	J	P	1.3			1	U		1	U	
1,2-DICHLOROPROPANE	1	U		1	U		1	U		1	U	
1,3-DICHLOROBENZENE	1	U		1	U		1	U		1	U	
1,4-DICHLOROBENZENE	1	U		1	U		1	U		1	U	
2-CHLOROETHYL VINYL ETHER	1	U		1	U		1	U		1	U	
BENZENE	1	U		1	U		1	U		1	U	
BROMODICHLOROMETHANE	1	U		1	U		1	U		1	U	
BROMOFORM	1	U		1	U		1	U		1	U	
BROMOMETHANE	1	U		1	U		1	U		1	U	
CARBON TETRACHLORIDE	1	U		1	U		1	U		1	U	
CHLOROBENZENE	1	U		1	U		1	U		1	U	
CHLORODIBROMOMETHANE	1	U		1	U		1	U		1	U	
CHLOROETHANE	1	U		1	U		1	U		1	U	
CHLOROFORM	1	U		1	U		1	U		1	U	
CHLOROMETHANE	1	U		1	U		1	U		1	U	
CIS-1,2-DICHLOROETHENE	6.2			18.5			1	U		1	U	
CIS-1,3-DICHLOROPROPENE	1	U		1	U		1	U		1	U	
DICHLORODIFLUOROMETHANE	1	U		1	U		1	U		1	U	
ETHYLBENZENE	1	U		1	U		1	U		1	U	
METHYL TERT-BUTYL ETHER	1	U		1	U		1	U		1	U	
METHYLENE CHLORIDE	5	U		5	U		5	U		5	U	
TETRACHLOROETHENE	1	U		1	U		1	U		1	U	
TOLUENE	1	U		1	U		1	U		1	U	
TOTAL XYLENES	3	U		3	U		3	U		3	U	
TRANS-1,2-DICHLOROETHENE	0.54	J	P	1.9			1	U		1	U	

CTO192-NAS JACKSONVILLE
WATER DATA
Accutest, NJ
SDG: F11852

SAMPLE NUMBER:	JAX-12-GW1(4-9)			JAX-12-GW2(5-10)			JAX-19-GW(3-7)			JAX-19-GW(6-8)		
SAMPLE DATE:	12/19/01			12/19/01			12/19/01			12/19/01		
LABORATORY ID:	F11852-7			F11852-6			F11852-4			F11852-1		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
VOLATILES												
TRANS-1,3-DICHLOROPROPENE	1	U		1	U		1	U		1	U	
TRICHLOROETHENE	8.2			4.6			1	U		1	U	
TRICHLOROFLUOROMETHANE	1	U		1	U		1	U		1	U	
VINYL CHLORIDE	1	U		1	U		1	U		1	U	

CTO192-NAS JACKSONVILLE
WATER DATA
Accutest, NJ
SDG: F11852

SAMPLE NUMBER:	JAX-12-GW1(4-9)			JAX-12-GW2(5-10)			JAX-19-GW(3-7)			JAX-19-GW(6-8)		
SAMPLE DATE:	12/19/01			12/19/01			12/19/01			12/19/01		
LABORATORY ID:	F11852-7			F11852-6			F11852-4			F11852-1		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
POLYNUCLEAR AROMATIC HYDROCARBONS												
1-METHYLNAPHTHALENE	2	U		2.2	U		2.2	U		3.5	J	P
2-METHYLNAPHTHALENE	2	U		2.2	U		2.2	U		8.4	U	
ACENAPHTHENE	4	U		4.4	U		4.4	U		26.7		
ACENAPHTHYLENE	4	U		4.4	U		4.4	U		8.4	U	
ANTHRACENE	2	U		2.2	U		2.2	U		13.2		
BENZO(A)ANTHRACENE	0.2	U		0.22	U		0.22	U		5.2		
BENZO(A)PYRENE	0.2	U		0.22	U		0.22	U		6.1		
BENZO(B)FLUORANTHENE	0.2	U		0.22	U		0.22	U		3.4		
BENZO(G,H,I)PERYLENE	0.2	U		0.22	U		0.22	U		4.9		
BENZO(K)FLUORANTHENE	0.2	U		0.22	U		0.22	U		2.3		
CHRYSENE	2	U		2.2	U		2.2	U		11.4		
DIBENZO(A,H)ANTHRACENE	0.2	U		0.22	U		0.22	U		0.48		
FLUORANTHENE	2	U		2.2	U		2.2	U		26		
FLUORENE	2	U		2.2	U		2.2	U		12.3		
INDENO(1,2,3-CD)PYRENE	0.2	U		0.22	U		0.22	U		3.6		
NAPHTHALENE	2	U		2.2	U		2.2	U		21.7		
PHENANTHRENE	2	U		2.2	U		2.2	U		45.5		
PYRENE	2	U		2.2	U		2.2	U		20.6		

CTO192-NAS JACKSONVILLE
WATER DATA
Accutest, NJ
SDG: F11852

SAMPLE NUMBER:	JAX-12-GW1(4-9)			JAX-12-GW2(5-10)			JAX-19-GW(3-7)			JAX-19-GW(6-8)		
SAMPLE DATE:	12/19/01			12/19/01			12/19/01			12/19/01		
LABORATORY ID:	F11852-7			F11852-6			F11852-4			F11852-1		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	MG/L			MG/L			MG/L			MG/L		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
TOTAL PETROLEUM HYDROCARBONS	0.28	U		0.28	U		0.28	U		0.405		

Accutest Laboratories

Report of Analysis

Client Sample ID:	JAX-19-GW(6-8)		
Lab Sample ID:	F11852-1	Date Sampled:	12/19/01
Matrix:	AQ - Ground Water	Date Received:	12/20/01
Method:	EPA 504.1 EPA 504	Percent Solids:	n/a
Project:	NAS JAX- N2872 KJ0050115		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	DD04364.D	1	12/21/01	SKW	12/21/01	OP4425	GDD161
Run #2							

CAS No.	Compound	Result	RL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.020	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	JAX-19-GW(6-8)		
Lab Sample ID:	F11852-1	Date Sampled:	12/19/01
Matrix:	AQ - Ground Water	Date Received:	12/20/01
Method:	SW846 8021B	Percent Solids:	n/a
Project:	NAS JAX- N2872 KJ0050115		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR008020.D	1	12/28/01	RA	n/a	n/a	GQR342
Run #2							

VOA 8021 List

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	1.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	1.0	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
75-09-2	Methylene chloride	ND	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	ND	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	JAX-19-GW(6-8)		
Lab Sample ID:	F11852-1	Date Sampled:	12/19/01
Matrix:	AQ - Ground Water	Date Received:	12/20/01
Method:	EPA 8310 SW846 3510C	Percent Solids:	n/a
Project:	NAS JAX- N2872 KJ0050115		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	AA009852.D	1	12/31/01	MRE	12/24/01	OP4434	GAA437
Run #2 [a]	AA009876.D	2	01/01/02	MRE	12/24/01	OP4434	GAA438

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	Units	Q
83-32-9	Acenaphthene	26.7 [b]	8.4	ug/l	
208-96-8	Acenaphthylene	ND [b]	8.4	ug/l	
120-12-7	Anthracene	13.2	2.2	ug/l	
56-55-3	Benzo(a)anthracene	5.2 [b]	0.42	ug/l	
50-32-8	Benzo(a)pyrene	6.1 [b]	0.42	ug/l	
205-99-2	Benzo(b)fluoranthene	3.4 [b]	0.42	ug/l	
191-24-2	Benzo(g,h,i)perylene	4.9 [b]	0.42	ug/l	
207-08-9	Benzo(k)fluoranthene	2.3 [b]	0.42	ug/l	
218-01-9	Chrysene	11.4 [b]	4.2	ug/l	
53-70-3	Dibenzo(a,h)anthracene	0.48 [b]	0.42	ug/l	
206-44-0	Fluoranthene	26.0 [b]	4.2	ug/l	
86-73-7	Fluorene	12.3 [b]	4.2	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	3.6 [b]	0.42	ug/l	
91-20-3	Naphthalene	21.7 [b]	4.2	ug/l	
90-12-0	1-Methylnaphthalene	3.5 [b]	4.2	ug/l	J
91-57-6	2-Methylnaphthalene [c]	ND [b]	8.4	ug/l	
85-01-8	Phenanthrene	45.5 [b]	4.2	ug/l	
129-00-0	Pyrene	20.6 [b]	4.2	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	73%	79%	33-141%
92-94-4	p-Terphenyl	85%	97%	31-122%

(a) Confirmed by GC/MS.
(b) Result is from Run# 2
(c) Elevated reporting limits due to matrix interference.

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	JAX-19-GW(6-8)		
Lab Sample ID:	F11852-1	Date Sampled:	12/19/01
Matrix:	AQ - Ground Water	Date Received:	12/20/01
Method:	FLORIDA-PRO SW846 3510C	Percent Solids:	n/a
Project:	NAS JAX- N2872 KJ0050115		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OP19021.D	1	12/27/01	ME	12/26/01	OP4438	GOP709
Run #2							

CAS No.	Compound	Result	RL	Units	Q
	TPH (C8-C40)	0.405	0.25	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	92%		55-130%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	JAX-19-SB1(4)		
Lab Sample ID:	F11852-3	Date Sampled:	12/19/01
Matrix:	SO - Soil	Date Received:	12/20/01
Method:	SW846 8260B	Percent Solids:	82.9
Project:	NAS JAX- N2872 KJ0050115		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H014904.D	1	12/31/01	KW	n/a	n/a	VH478
Run #2							

VOA 8021 List

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	5.9	ug/kg	
75-27-4	Bromodichloromethane	ND	5.9	ug/kg	
75-25-2	Bromoform	ND	5.9	ug/kg	
108-90-7	Chlorobenzene	ND	5.9	ug/kg	
75-00-3	Chloroethane	ND	5.9	ug/kg	
67-66-3	Chloroform	ND	5.9	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	12	ug/kg	
56-23-5	Carbon tetrachloride	ND	5.9	ug/kg	
75-34-3	1,1-Dichloroethane	ND	5.9	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	5.9	ug/kg	
107-06-2	1,2-Dichloroethane	ND	5.9	ug/kg	
78-87-5	1,2-Dichloropropane	ND	5.9	ug/kg	
124-48-1	Dibromochloromethane	ND	5.9	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	5.9	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	5.9	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	5.9	ug/kg	
541-73-1	m-Dichlorobenzene	ND	5.9	ug/kg	
95-50-1	o-Dichlorobenzene	ND	5.9	ug/kg	
106-46-7	p-Dichlorobenzene	ND	5.9	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	5.9	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	5.9	ug/kg	
100-41-4	Ethylbenzene	ND	5.9	ug/kg	
74-83-9	Methyl bromide	ND	5.9	ug/kg	
74-87-3	Methyl chloride	ND	5.9	ug/kg	
75-09-2	Methylene chloride	ND	12	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	5.9	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	5.9	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	5.9	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	5.9	ug/kg	
127-18-4	Tetrachloroethylene	ND	5.9	ug/kg	
108-88-3	Toluene	ND	5.9	ug/kg	
79-01-6	Trichloroethylene	ND	5.9	ug/kg	
75-69-4	Trichlorofluoromethane	ND	5.9	ug/kg	
75-01-4	Vinyl chloride	ND	5.9	ug/kg	
1330-20-7	Xylene (total)	ND	18	ug/kg	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	JAX-19-SB1(4)		
Lab Sample ID:	F11852-3	Date Sampled:	12/19/01
Matrix:	SO - Soil	Date Received:	12/20/01
Method:	EPA 8310 SW846 3550B	Percent Solids:	82.9
Project:	NAS JAX- N2872 KJ0050115		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	EE006896.D	1	01/02/02	MRE	12/28/01	OP4455	GEE313
Run #2							

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	Units	Q
83-32-9	Acenaphthene	ND	790	ug/kg	
208-96-8	Acenaphthylene	ND	790	ug/kg	
120-12-7	Anthracene	ND	400	ug/kg	
56-55-3	Benzo(a)anthracene	ND	400	ug/kg	
50-32-8	Benzo(a)pyrene	58.0	79	ug/kg	J
205-99-2	Benzo(b)fluoranthene	36.7	79	ug/kg	J
191-24-2	Benzo(g,h,i)perylene	75.6	79	ug/kg	J
207-08-9	Benzo(k)fluoranthene	ND	79	ug/kg	
218-01-9	Chrysene	ND	400	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	79	ug/kg	
206-44-0	Fluoranthene	ND	400	ug/kg	
86-73-7	Fluorene	ND	400	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	44.6	79	ug/kg	J
91-20-3	Naphthalene	ND	400	ug/kg	
90-12-0	1-Methylnaphthalene	ND	400	ug/kg	
91-57-6	2-Methylnaphthalene	ND	400	ug/kg	
85-01-8	Phenanthrene	ND	400	ug/kg	
129-00-0	Pyrene	ND	400	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	88%		37-158%
92-94-4	p-Terphenyl	99%		59-149%

(a) All hits confirmed by spectral match using a diode array detector.

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	JAX-19-SB1(4)		
Lab Sample ID:	F11852-3	Date Sampled:	12/19/01
Matrix:	SO - Soil	Date Received:	12/20/01
Method:	FLORIDA-PRO SW846 3550B	Percent Solids:	82.9
Project:	NAS JAX- N2872 KJ0050115		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OP19104.D	1	12/31/01	ME	12/31/01	OP4463	GOP711
Run #2							

CAS No.	Compound	Result	RL	Units	Q
	TPH (C8-C40)	15.4	10	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	95%		66-130%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

TETRA TECH NUS, INC. CHAIN OF CUSTODY | NUMBER 121901-1 FIRST PAGE ___ OF ___

PROJECT NO: N3872KJ005015	SITE NAME: (PCAs NAS JAX)
SAMPLERS (SIGNATURE)	
PROJECT MANAGER AND PHONE NUMBER: GREG ROOF (904) 281-0400	
FIELD OPERATIONS LEADER AND PHONE NUMBER: J. FERRANTI SAME	
CARRIER/WAYBILL NUMBER: 831160727152	
LABORATORY NAME AND CONTACT: ACCUTEST	
ADDRESS: 4405 VINELAND ROAD C-15	
CITY, STATE: ORLANDO, FL 32811	

STANDARD TAT ☒
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

	DATE YEAR 2001	TIME	SAMPLE ID	MATRIX	GRAB (G) COMP (C)	No. OF CONTAINERS	CONTAINER TYPE PLASTIC (P) or GLASS (G)								
							40 ml VIAL	40 ml VIAL	1LG	1PE					
							PRESERVATIVE USED				HCl			H_2SO_4	
							TYPE OF ANALYSIS	8021B	EDB	8310 (PAH)	TRPH (FL-PRO)	8021B	TRPH/8270 PAH		COMMENTS
1)	12/19	0930	JAX-19-GW (C-8)	GW	G	10		3	3	2	2				
2)		1345	JAX-22I-GW (10-13)	GW	G	10		3	3	2	2				
3)		0905	JAX-19-SB1 (4)	SO	G	4							3	1	
			~~JAX-22I~~												

1. RELINQUISHED BY	DATE 12/19/01	TIME 1930	1. RECEIVED BY	DATE 12/20/01	TIME 1000
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME
COMMENTS					

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY) 3/99